

AMENDMENTS TO THE CLAIMS

*Please add new claims 58-68 as follows:*

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-29 (Canceled).

30. (Previously Presented) A skeletal implant of the type to be used to connect at least two elements of a skeleton, the skeletal implant comprising:

    a first part adapted to be connected to at least one of the at least two elements of the skeleton;

    a second part adapted to be connected to another of the at least two elements of the skeleton;

    a variable volume element adapted to move the first and second parts with respect to each other;

    a high-pressure chamber supplying fluid to the variable volume element; and

    a low-pressure chamber receiving fluid from the variable volume element; and

    a recharging variable volume element adapted to communicate with the high-pressure

chamber and the low-pressure chamber.

31. (Previously Presented) The implant of claim 30, further comprising another variable volume element disposed in the high-pressure chamber.

32. (Previously Presented) The implant of claim 31, further comprising a high-pressure valve allowing fluid to enter the variable volume element from the high-pressure chamber.

33. (Previously Presented) The implant of claim 30, wherein the low-pressure chamber comprises a deformable impermeable sleeve.

34. (Previously Presented) The implant of claim 33, further comprising a low-pressure valve allowing fluid to exit the variable volume element and enter the low-pressure chamber.

35. (Previously Presented) The implant of claim 30, further comprising a third part having one end coupled to the first part and another end disposed between the variable volume element and the second part.

36. (Previously Presented) The implant of claim 30, wherein the variable volume element comprises one end coupled to the first part and another end coupled to a third part.

37. (Previously Presented) The implant of claim 30, further comprising a third part having a threaded opening which engages a threaded portion of the second part.

Claim 38 (Canceled).

39. (Previously Presented) The implant of claim 30, wherein the recharging variable volume element comprises one end that is coupled to a third part and another end that is coupled to the first part.

Claim 40 (Canceled).

41. (Previously Presented) The implant of claim 39, wherein the second part is rotatably coupled to at least one of the variable volume element and the third part.

42. (Previously Presented) The implant of claim 30, further comprising a sealed bellows disposed in the high-pressure chamber.

43. (Previously Presented) The implant of claim 30, wherein the recharging variable volume element comprises a metal bellows having one end coupled to the first part and another end coupled to a third part.

44. (Previously Presented) The implant of claim 30, further comprising a sleeve defining a variable volume of the low-pressure chamber.

45. (Previously Presented) The implant of claim 30, further comprising a high-pressure conduit connecting the variable volume element to the high-pressure chamber.

46. (Previously Presented) The implant of claim 30, wherein the variable volume element comprises a metal bellows.

47. (Previously Presented) The implant of claim 30, wherein at least one of the first part and the second part comprises an opening which is adapted to receive a connecting member, whereby the connecting member connects the first or second part to one of the at least two elements of the skeleton.

48. (Previously Presented) A skeletal implant of the type to be used to connect at least two elements of a skeleton, the skeletal implant comprising:

    a first part adapted to be connected to at least one of the at least two elements of the skeleton;

    a second part adapted to be connected to another of the at least two elements of the skeleton;

    a variable volume element having a first end coupled to the first part and a second end, the variable volume element being adapted to move the first and second parts away from each other;

    a third part having a first end coupled to the first part and a second end coupled to the second end of the variable volume element;

    a high-pressure chamber supplying fluid to the variable volume element; and

    a low-pressure chamber receiving fluid from the variable volume element.

49. (Previously Presented) The implant of claim 48, further comprising a recharging variable volume element which includes a first end coupled to the first end of the third part and a second end coupled to the first part.

50. (Previously Presented) The implant of claim 49, wherein the recharging variable volume element is adapted to communicate with at least one of the high-pressure chamber and the low-pressure chamber.

51. (Previously Presented) The implant of claim 48, wherein the second part is rotatably coupled to at least one of the variable volume element and the third part.

52. (Previously Presented) The implant of claim 48, further comprising a high-pressure valve allowing fluid to enter the variable volume element from the high-pressure chamber.

53. (Previously Presented) The implant of claim 48, further comprising a low-pressure valve allowing fluid to exit the variable volume element and enter the low-pressure chamber.

54. (Previously Presented) The implant of claim 48, wherein at least one of the first part and the second part comprises an opening which is adapted to receive a connecting member, whereby the connecting member connects the first or second part to one of the at least two elements of the skeleton.

55. (Previously Presented) A skeletal implant of the type to be used to connect at least two elements of a skeleton, said implant comprising at least two parts, each of which is capable of being connected to one of said at least two elements, said at least two parts being movable with respect to each other, wherein there is provided, between said at least two parts:

at least one of:

a means authorizing a displacement between said at least two parts, from a starting position to a displaced position; and

a means exerting a force between said at least two elements of the skeleton; said means being responsive to control means and comprising at least one variable volume element containing a fluid;

said control means comprising a high-pressure reservoir and a very high-pressure differential variable volume recharging element for sending fluid at high-pressure into said high-pressure reservoir;

said high-pressure reservoir being connected to said at least one variable volume element via a high-pressure valve;

said at least one variable volume element being connected to a low-pressure reservoir via a low-pressure valve;

said very high-pressure differential variable volume recharging element being

connected to said low-pressure reservoir via another low-pressure valve; and  
said very high-pressure differential variable volume recharging element being  
responsive to displacements of corporal parts for recharging of said high-pressure reservoir  
with said fluid.

56. (Previously Presented) The implant of claim 55, wherein said high-pressure reservoir is designed to maintain said fluid contained therein at high pressure, even when significant quantities of said fluid are sent to said variable volume element, provoking a substantial reduction in a volume of said fluid, in order to maintain a high value of pressure in said high-pressure reservoir, and wherein said high-pressure reservoir contains an energy accumulator in the form of a cell having an elastically deformable wall, said energy accumulator being configured to assume a compressed and reduced volume state when fluid is introduced into said high-pressure reservoir, and being configured to assume an expanded state to maintain a high pressure when fluid is withdrawn from said high-pressure reservoir.

57. (Previously Presented) A skeletal implant of the type to be used to connect at least two elements of a skeleton, said implant comprising at least two parts, each of which is capable of being connected to one of said at least two elements, said at least two parts being movable with respect to each other, wherein there is provided, between said at least two

parts:

at least one of:

a means authorizing a displacement between said at least two parts from a starting position to a displaced position, the means comprising at least one variable volume element containing a fluid; and

a means exerting a force between said at least two elements of the skeleton;

said means being responsive to control means;

said control means comprising a high-pressure reservoir and a very high-pressure differential variable volume recharging element for sending fluid into said high-pressure reservoir;

said high-pressure reservoir being connected to said variable volume element via a high-pressure valve;

said variable volume element being connected to a low-pressure reservoir via a low-pressure valve; and

said high-pressure valve and said low-pressure valve being relatively spaced apart from one another.

58. (New) The implant of claim 30, wherein the implant is adapted to provide viscous damping during movements of the first and second parts.

59. (New) The implant of claim 48, wherein the implant is adapted to provide viscous damping during movements of the first and second parts.

60. (New) The implant of claim 55, wherein the implant is adapted to provide viscous damping during movements of said at least two parts.

61. (New) The implant of claim 57, wherein the implant is adapted to provide viscous damping during movements of said at least two parts.

62. (New) The implant of claim 30, wherein the recharging variable volume element is responsive to displacements of corporal parts of a user and recharges the high-pressure chamber with fluid.

63. (New) The implant of claim 48, further comprising a recharging variable volume element responsive to displacements of corporal parts of a user and recharging the high-pressure chamber with fluid.

64. (New) The implant of claim 57, wherein the very high-pressure differential variable volume recharging element is responsive to displacements of corporal parts of a user

and recharges said high-pressure reservoir with fluid.

65. (New) The implant of claim 30, wherein the implant is adapted to provide a damping effect with an adjustable coefficient of resistance.

66. (New) The implant of claim 48, wherein the implant is adapted to provide a damping effect with an adjustable coefficient of resistance.

67. (New) The implant of claim 55, wherein the implant is adapted to provide a damping effect with an adjustable coefficient of resistance.

68. (New) The implant of claim 57, wherein the implant is adapted to provide a damping effect with an adjustable coefficient of resistance.